



Armed Forces College of Medicine AFCM



Chronic Hepatitis



Dr. Riham Abu-Zeid
Prof. of Pathology



By the end of this lecture the student will be able to:

- Enumerate causes of chronic hepatitis
- Describe pathologic features of chronic viral hepatitis
- Summarize pathology of chronic hepatitis other than the viral type (Autoimmune, Alcoholic, NAFLD /NASH)
- Correlate pathologic features of different causes of chronic hepatitis with their clinical picture, investigations and complications

Lecture Plan



1. Part 1 (15 min) chronic viral hepatitis
2. Part 2 (25min) Other causes of chronic hepatitis
3. Part 3 (5 min) Summary
4. Lecture Quiz (5 min)

Chronic Hepatitis



- **Symptomatic or biochemical, or serologic evidence of inflammation of liver for more than 6 months**
- **With histologically documented evidence of inflammation and necrosis in liver**



Hepatitis



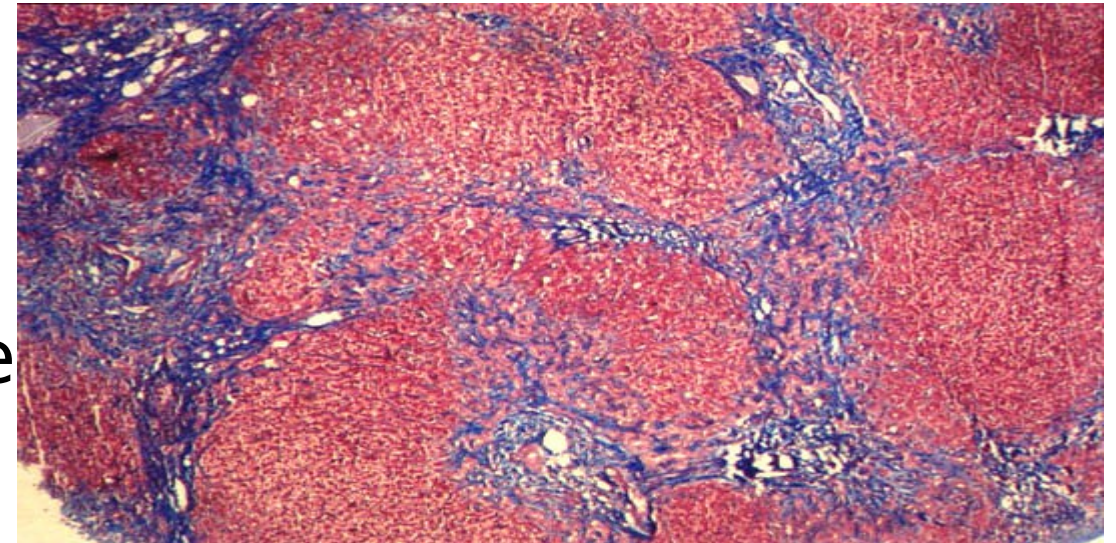
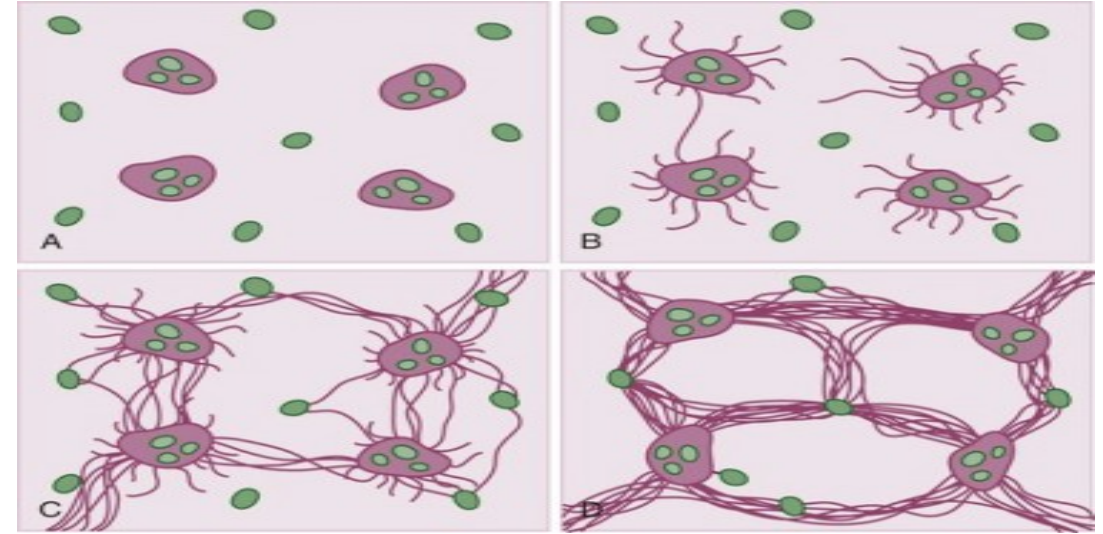
	Acute	Chronic
Duration	Less than 6 months	More than 6 months
Pattern of injury		
Cell death	++	+
Severity of Inflammation	+	++++
Scarring/Fibrosis	-	++++

Chronic Hepatitis



Histopathological features of viral chronic hepatitis

- Like acute but :
- Duration >6 months
- **Inflammation** is more prominent
- **Fibrosis** according to severity :
 - Portal fibrosis
 - Portal and periportal fibrosis
 - Formation of bridging fibrous se



Causes of Chronic Hepatitis

1-Viral hepatitis

2-Autoimmune Hepatitis

**3-Alcoholic & Non Alcoholic FLD
/Hepatitis**

4-Drug Induced Hepatitis

5-Cholestatic liver disease

6-Wilson's Disease

7-Alpha 1 antitrypsin Deficiency



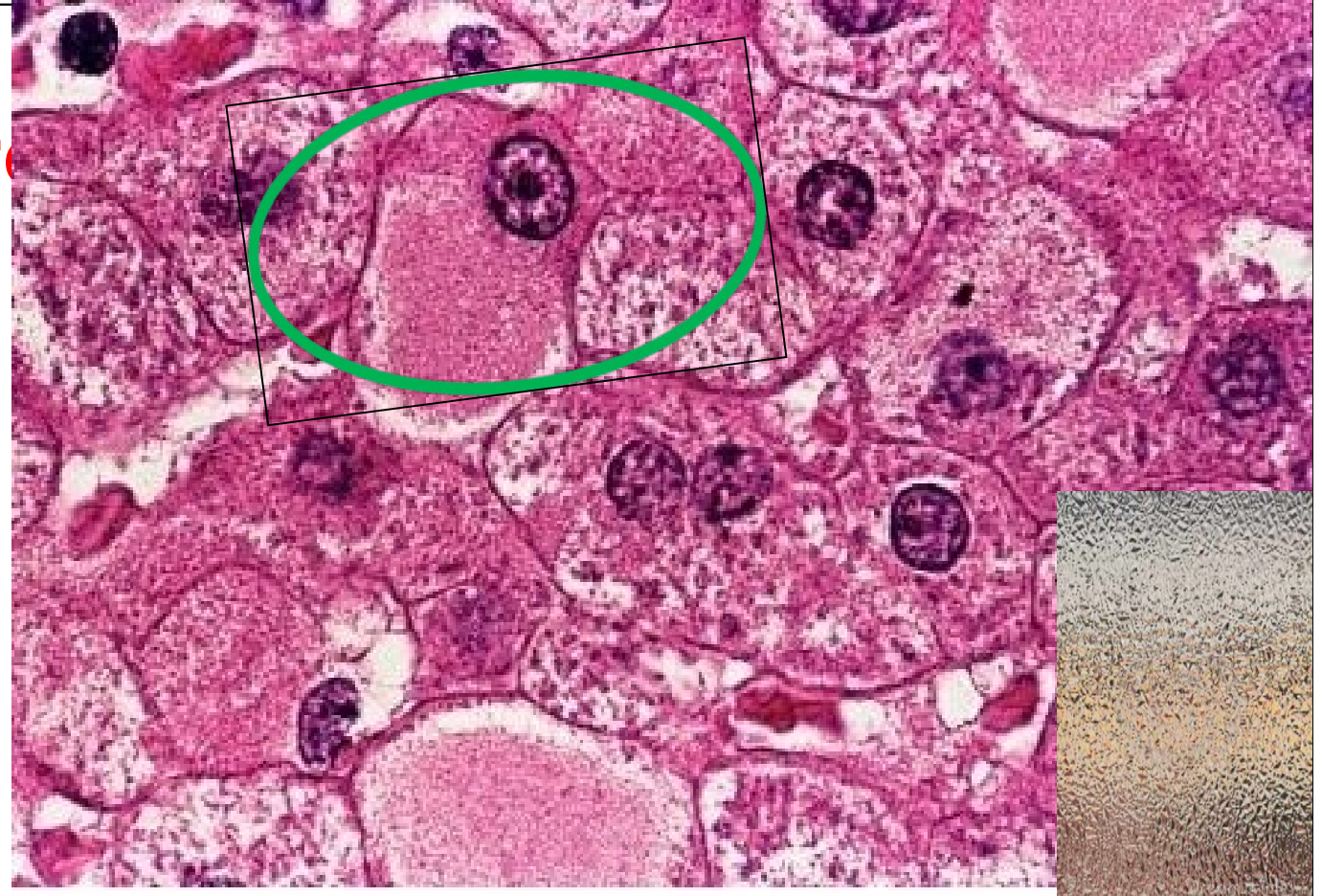
Chronic Viral Hepatitis with Features

Suggestive of Virus B

In addition to usual chronic hepatitis features

Virus B

Ground glass hepatocytes





Chronic Viral Hepatitis with Features Suggestive of Virus C

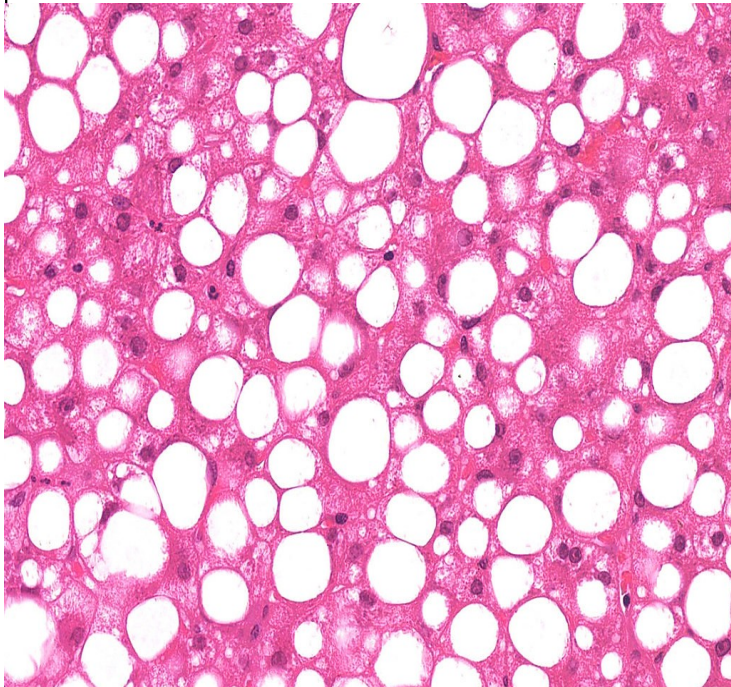
In addition to usual chronic hepatitis features

Virus C

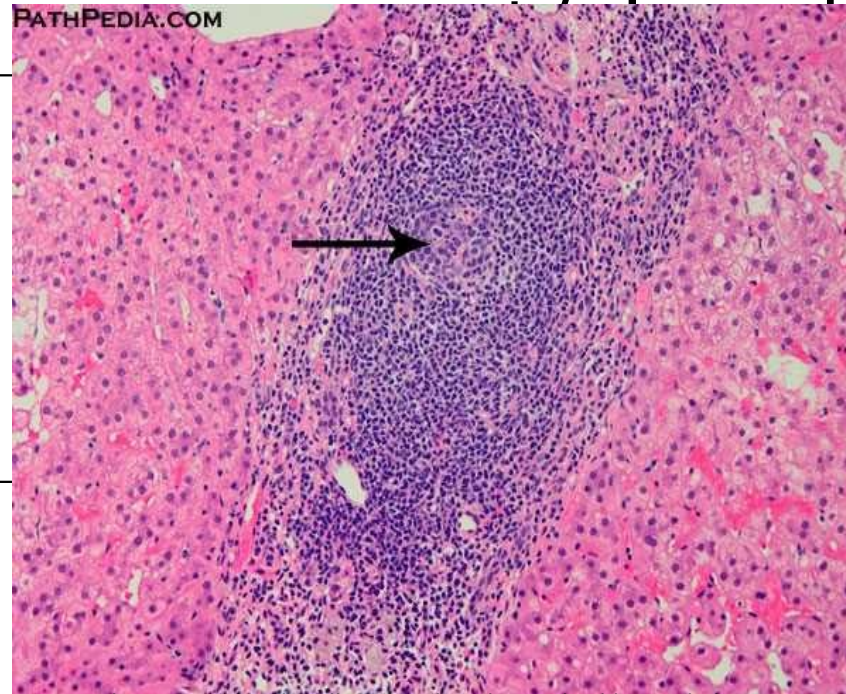
1-Steatosis

2-Portal Lymphocytic infiltration

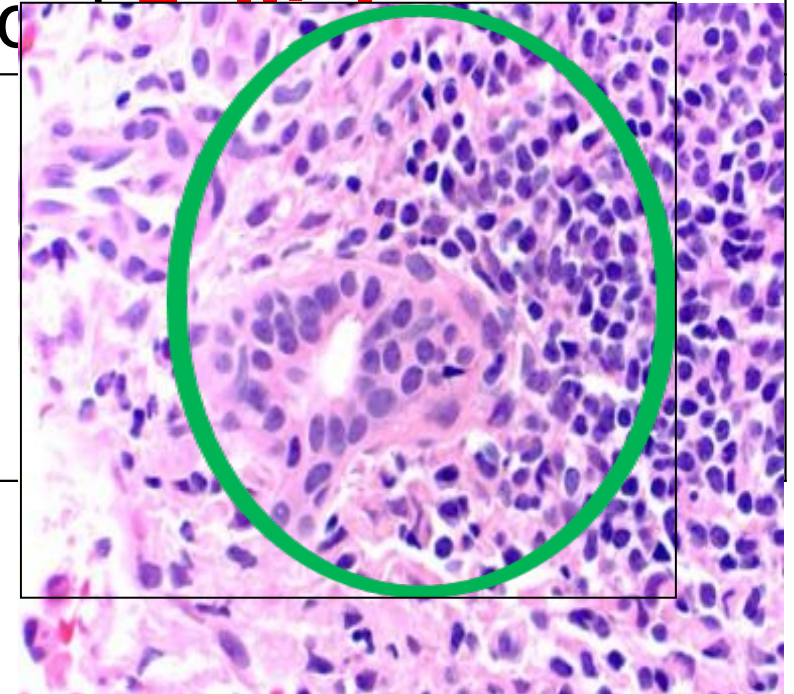
3-Bile Duct Injury



https://farm1.staticflickr.com/387/20236394886_ba1f9d326b_b.jpg



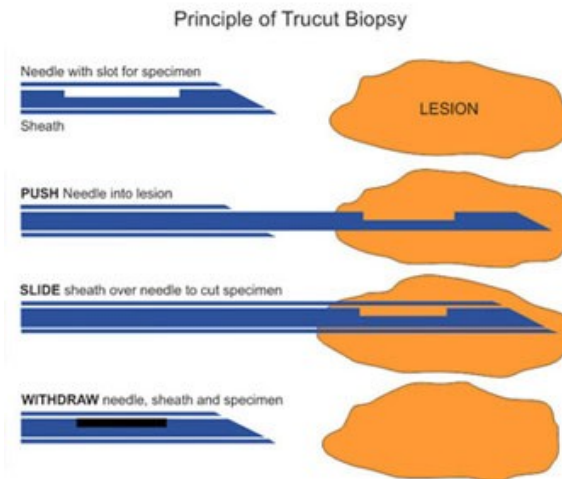
[https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/chronic_hepatitis_c/chronic-hepatitis-c-\[2-li035-2\].jpeg?Width=600&Height=450&Format=4](https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/chronic_hepatitis_c/chronic-hepatitis-c-[2-li035-2].jpeg?Width=600&Height=450&Format=4)



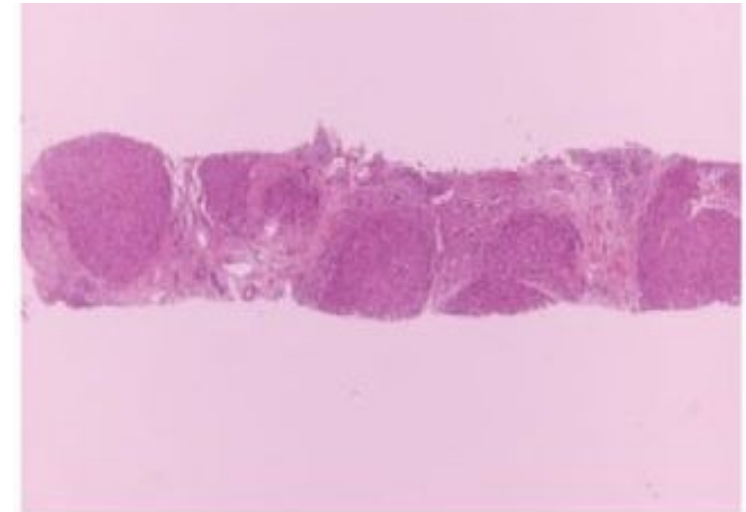
<https://img.medscapestatic.com/pi/meds/ckb/05/9305tn.jpg>

Tru cut liver biopsy liver biopsy :

- Confirm diagnosis
- Grading of extent of inflammation
- Staging of fibrosis



<https://dierenziekenhuizen.nl/content/uploads/2014/05/Biopt-naald.jpg>



https://www.youtube.com/watch?v=u_g3n7bvq2Wg

Liver Biopsy Procedure



Diagnosis of chronic hepatitis should include:

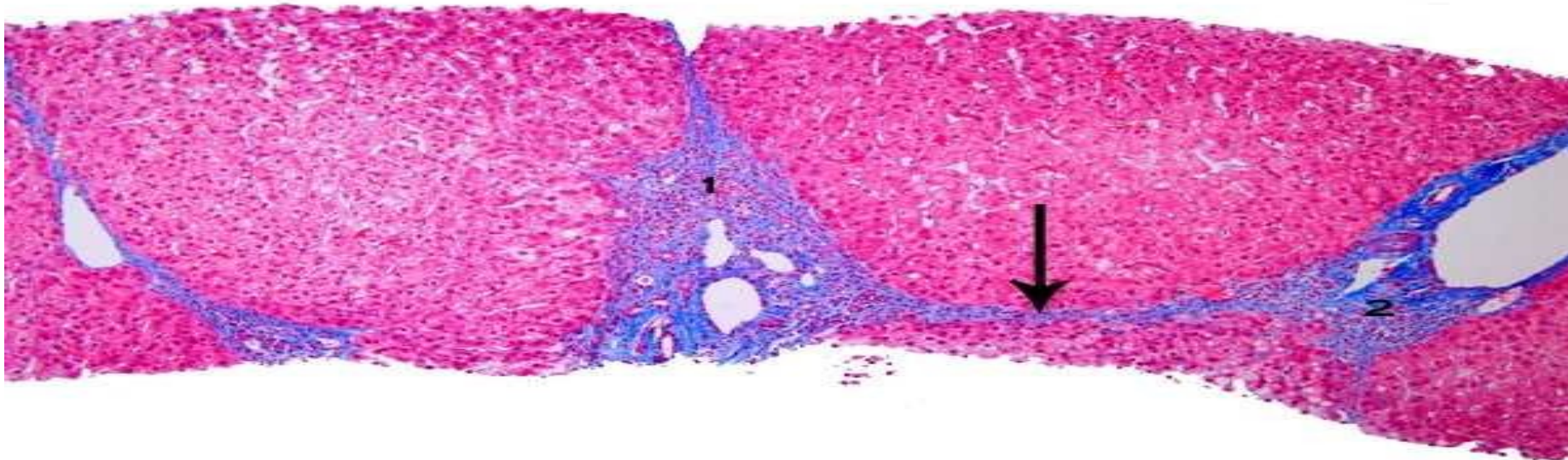
- **Grade of activity (i.e. necroinflammatory activity).**
- **Stage of fibrosis**
- **Grading & Staging systems assessed by**
Histological activity index (HAI) & METAVIR
- **Grading & Staging correlate with prognosis & response to interferon therapy**

Chronic viral hepatitis assessment



**eg. Chronic active hepatitis
HAI grading (eg. 7/18) &
Staging (eg 5/6).**

PATHPEDIA.COM



[https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/chronic_hepatitis_c/chronic-hepatitis-c-\[11-li051.jpeg?Width=600&Height=450&Format=4](https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/chronic_hepatitis_c/chronic-hepatitis-c-[11-li051.jpeg?Width=600&Height=450&Format=4)

Chronic viral hepatitis (Quiz)



A Liver biopsy revealed interface hepatitis , portal bridging fibrosis , lymphocytic infiltration in portal tract with lymphoid follicle formation, bile duct injury and steatosis . These findings are most likely due to which of the following?

- a. HAV
- b. HBV
- c. HCV
- d. HEV

Chronic viral hepatitis (Quiz)



A Liver biopsy revealed interface hepatitis , portal bridging fibrosis , lymphocytic infiltration in portal tract with lymphoid follicle formation, bile duct injury and steatosis . These findings are most likely due to which of the following?

- a. HAV
- b. HBV
- c. HCV
- d. HEV

Chronic Hepatitis



A patient has elevated liver enzymes but all his viral markers are negative ????????

Are there other causes of chronic hepatitis other than_
1-VIRAL?



2.Autoimmune Chronic Hepatitis

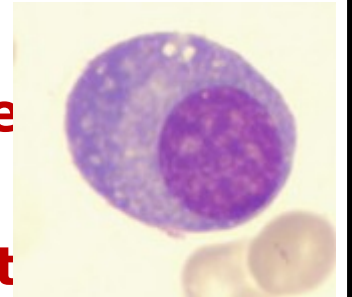


- **More common in Females**
- **Autoimmune disease attacks**

HEPATOCYTES

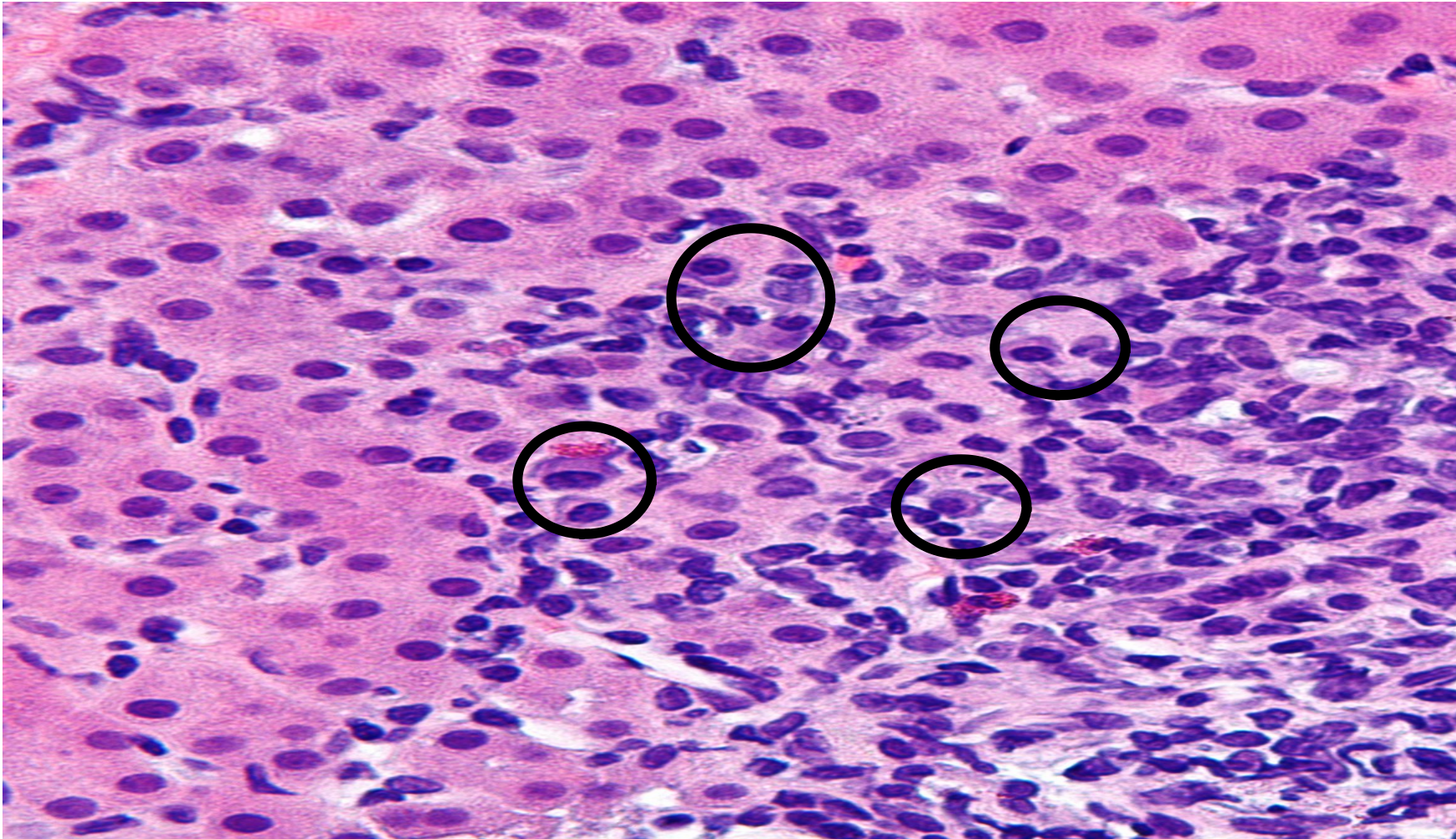
- **Assoc with autoimmune dis:**

- **+ve SMA**(smooth muscle
- **+ve ANA**(antinuclear ant
- **Others eg. LKM** (liver kidney microsomal antibody)



- **Plasma cell** rich infiltrate
- **Responds to immunosuppressive**

2. Autoimmune Chronic Hepatitis



https://upload.wikimedia.org/wikipedia/commons/0/0c/Autoimmune_hepatitis_-_cropped_-_very_high_mag.jpg

Chronic Hepatitis (Quiz)

Autoimmune
hepatitis

Chronic
hepatitis
B

Put each under correct
column

**Ground glass
hepatocytes
plasma cells
SMA-ANA
ulcerative colitis**

3. Alcoholic Chronic Hepatitis or NAFLD/NASH



NAFLD= Non alcoholic fatty liver disease

Associated with Metabolic syndrome

- Obesity
- Insulin resistance
- High LDL
- Hypertension



TTT of NAFLD :Weight reduction ,exercise ,control blood pressure & insulin resistance and reduce



dyslipidemia

3. Alcoholic and NAFLD Chronic Hepatitis / NASH



Both share same features

Mic: any combination of:

a. Steatosis

b. Steatohepatitis :

- Ballooned hepatocytes
- Mallory bodies : eosinophilic refractile inclusion
- Neutrophilic infiltration

**c. Steatohepatitis with
fibrosis/cirrhosis**

3. Alcoholic and NAFLD Chronic Hepatitis /



NASH

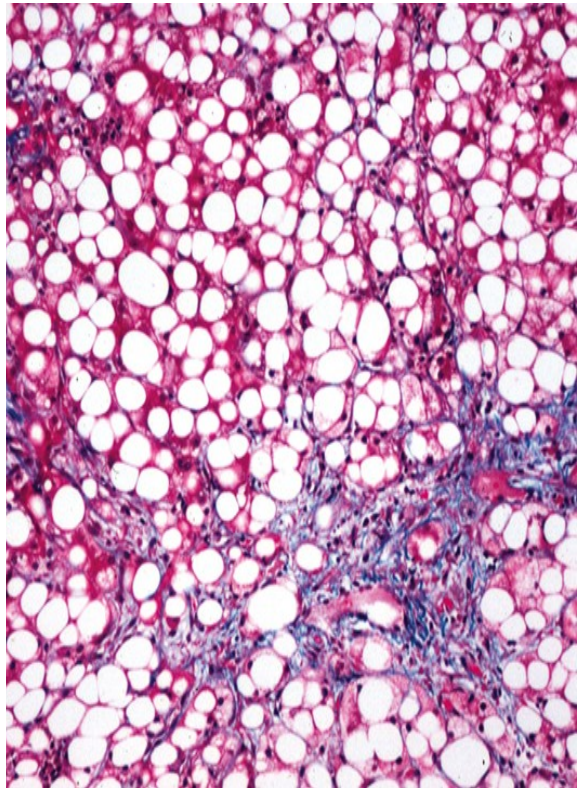
Mic: any

Both share same features
combination of:

Steatosis

Steatohepatitis

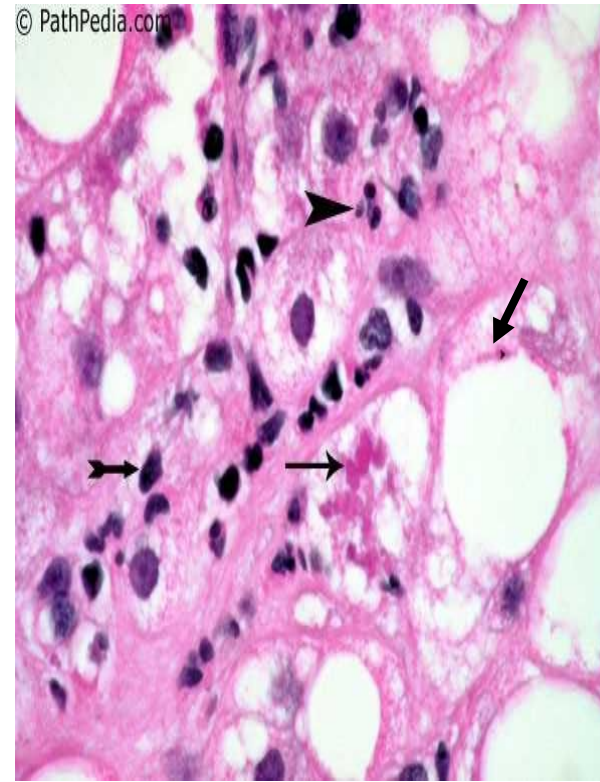
**Steatohepatitis
fibrosis/cirrhosis**



<https://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/hepatology/alcoholic-liver-disease/images/fig-1.jpg>

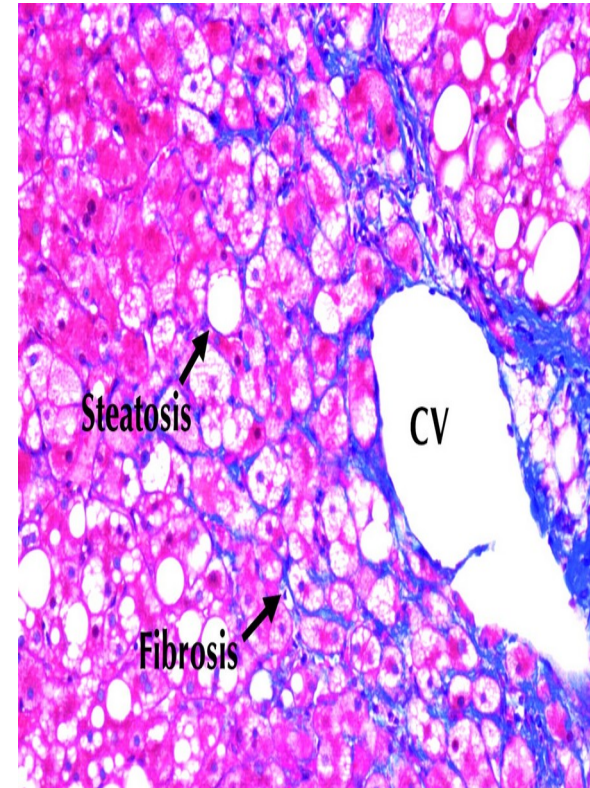


Ballooned hepatocytes
<https://webpath.med.utah.edu/jpeg4/LIVER015.jpg>



Neutrophilic infiltration

[https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic_steatohepatitis-\[2-li018-2\].jpeg?Width=600&Height=450&Format=4](https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic_steatohepatitis-[2-li018-2].jpeg?Width=600&Height=450&Format=4)



<http://www.cmaj.ca/content/cmaj/172/7/899/F2.large.jpg?download=true>

4- Drug Induced Hepatitis



Must be in DD
it is a mimicker of other causes

May cause :

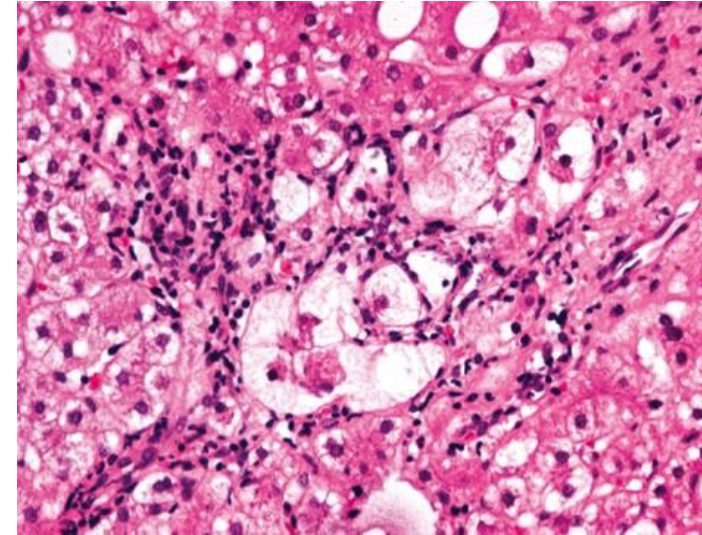
- Fulminant hepatitis
- Steatosis/ Steatohepatitis
- Chronic hepatitis
- Fibrosis and cirrhosis
- Tumours

Chronic Hepatitis (Quiz)

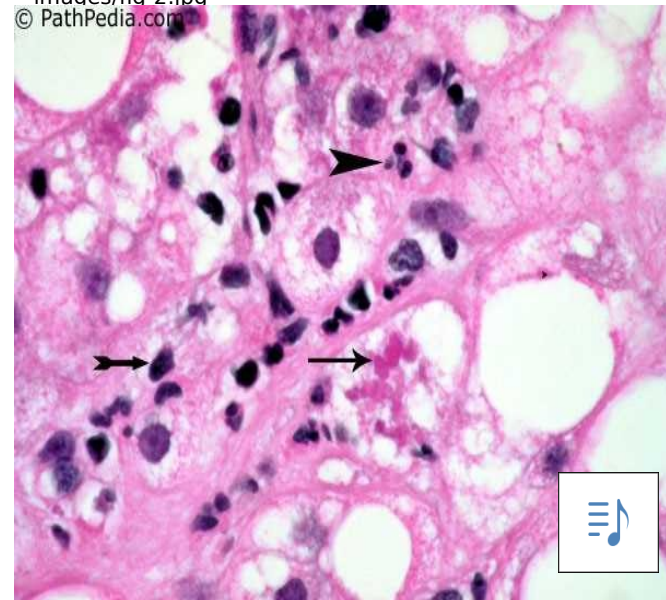


A 54 year old is found in a confused state & icteric. Investigations reveal elevated liver enzymes , negative SMA & ANA .Biopsy shows the appearance as shown in the following microscopic pictures . Which of the following etiologies best explains this appearance?

- a. Autoimmune hepatitis
- b. HCV
- c. HBV
- d. Alcoholic hepatitis



<https://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/hepatology/alcoholic-liver-disease/images/fig-2.jpg>
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[https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic-steatohepatitis-\[2-li018-2\].jpeg?Width=600&Height=450&Format=4](https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic-steatohepatitis-[2-li018-2].jpeg?Width=600&Height=450&Format=4)

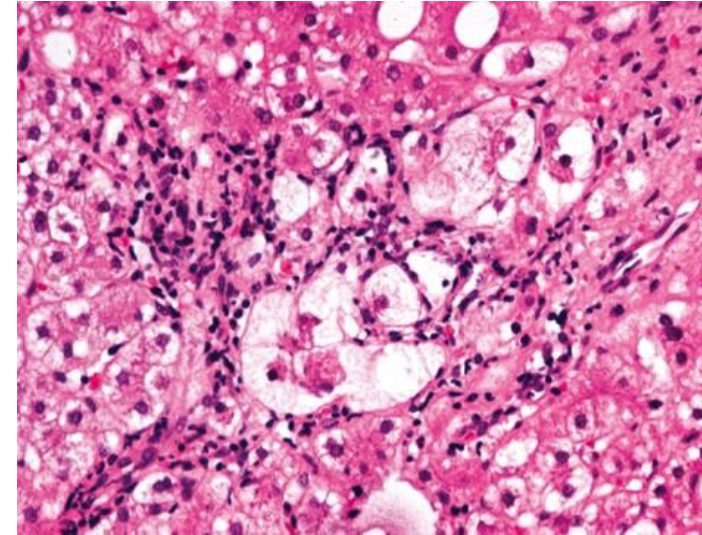


Chronic Hepatitis (Quiz)

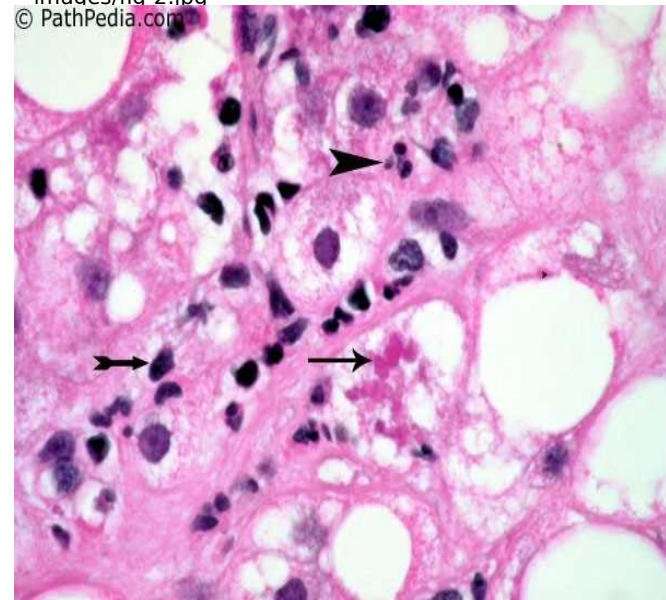


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[https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic-steatohepatitis-\[2-li018-2\].jpeg?Width=600&Height=450&Format=4](https://www.pathpedia.com/education/eatlas/histopathology/liver_and_bile_ducts/alcoholic_steatohepatitis/alcoholic-steatohepatitis-[2-li018-2].jpeg?Width=600&Height=450&Format=4)

Key points



- **Chronic hepatitis is symptomatic or biochemical, or serologic evidence of inflammation of liver for more than 6 months**
- **There are causes of chronic hepatitis other than viral hepatitis**
- **There are microscopic features suggestive of each cause of chronic hepatitis eg ground glass hepatocytes in viral hepatitis B**
- **Alcoholic and Non-Alcoholic hepatitis have the same microscopic features**

Suggested Textbooks



Neil D. Theise. Liver and gall bladder. In Robbins and Cotran
pathologic basis of disease, 10th edition. Kumar, Abbas &
Aster (eds). Elsevier Saunders. Pages 637-676

Thank you

CHEER UP!

